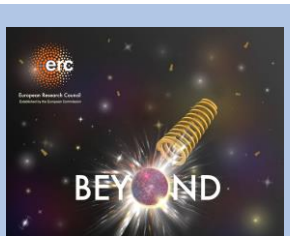

UNIVERSITÀ DI TRENTO

The spectrum of fault slip behavior and precursor to failure, what can we learn on earthquake prediction?

Ass. Prof. Luca Dal Zilio
https://www.lucadalzilio.net//research/
Nanyang Technological University.

Date	September 10 2024,
Time	15.00-16.00
Room	**Aula Polifunzionale BUM, Mesiano**

Understanding the interplay between fluid flow and fault mechanics is crucial in seismotectonics and geo-energy exploration, as it influences both seismic and aseismic slip behaviors. Recent advancements in modeling hydro-mechanical coupled processes provide new insights into the role of fluids in faulting phenomena. This lecture will discuss the latest developments in the modeling of poro-mechanics, fault friction, and fully dynamic earthquake rupture. By integrating solid-fluid interactions into computational frameworks, we can better capture the complex dynamics of fault systems, including the triggering of earthquakes and the evolution of fault slip. This approach offers a more comprehensive understanding of the processes governing seismic hazards and provides a foundation for future research into both natural and anthropogenically induced seismic events.

The seminar is organized by the Solid and Structural Mechanics Group [D. Bigoni, F. Dal Corso, L. Deseri, D. Misseroni, M.F. Pantano, A. Piccolroaz, N.Pugno, R. Springhetti]